

Patent claims

1. A shut-off device, especially an explosion protection valve (1) having a housing (2) and having a rotationally symmetrical closing body (3), guided within the housing, which, under the influence of a dynamic pressure can be pressed out of an open setting, in at least one motional direction (s) against a valve seat (4) into a sealing close setting, characterized in that on the outer side of the closing body (3) and/or on the inner side of the housing (2), especially in the region of the flow area (24) formed between the closing body in the open setting and the housing, there are disposed interfering means (25, 25a, 26) for generating a turbulent flow.
2. The shut-off device as claimed in claim 1, characterized in that the interfering means are baffles jutting into the flow area (24).
3. The shut-off device as claimed in claim 2, characterized in that the baffles having one or more interfering rings (25a, 25b) disposed on the closing body 3 or on the housing 2.
4. The shut-off device as claimed in claim 1, characterized in that the interfering means have at least one interfering edge (26), which extends at least partially along the flow area (24) and at which at least two wall portions meet at an angle less than 180°.
5. The shut-off device as claimed in claim 4, characterized in that the interfering edge (26) is disposed on the closing body and especially on its outer diameter (D1).

6. The shut-off device as claimed in claim 5, characterized in that the closing body (3), at least on the side facing the valve seat (4), runs in relation to its cross section from its center axis (7) to the outer diameter (D1) in at least two differently inclined or curved outer wall portions (5, 6 and 5', 6' respectively).
7. The shut-off device as claimed in claim 6, characterized in that the two differently inclined or curved outer wall portions meet approximately in the diametral region (D3) of the valve seat (4).
8. The shut-off device as claimed in claim 6 or 7, characterized in that the closing body (3) runs in relation to its cross section from its center axis (7) to the outer diameter (D1), to begin with preferably in an elliptically curved or conical, and then in a frustoconical path.
9. The shut-off device as claimed in claim 4, characterized in that the interfering edge 26 is disposed on the housing and, in particular, in the connecting region of two housing halves 2, 2'.
10. The shut-off device as claimed in one of claims 4 to 9, characterized in that the two wall portions forming an interfering edge meet at an angle (α) between 60° and 179° , preferably 120° .
11. The shut-off device as claimed in one of claims 4 to 10, characterized in that the two wall portions forming an interfering edge form a circumferential recess in the closing body and/or in the housing.

12. The shut-off device as claimed in one of claims 1 to 11, characterized in that the closing body (3) is configured as a hollow body.
13. The shut-off device as claimed in claim 12, characterized in that the closing body is made from sheet metal and in that it is fastened on a guide tube (12).
14. The shut-off device as claimed in claim 12 or 13, characterized in that the closing body (3) is formed from two identical shells (16, 16'), which are joined together on the outer diameter (D1).